# Does Traditional Chinese Medicine improve semen morphology, motility and count? A pragmatic randomised clinical trial

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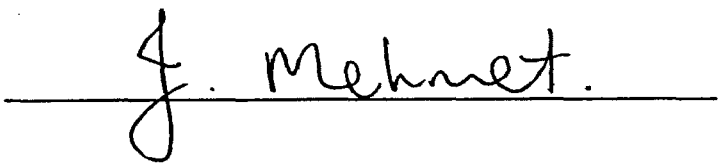
## CERTIFICATE OF AUTHORSHIP/ORIGINALITY

**I certify that the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree except as fully acknowledged within the text.**

**I also certify that the thesis has been written by me. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.**

**Signature of Candidate**



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**List of refereed papers, conference presentations and posters arising from the research**

**Refereed Conference papers**

- Mehmet, J, Zaslawski, C, Leong, J. (2004) Does traditional Chinese medicine improve semen count, motility and morphology in sub fertile men? A pragmatic randomised clinical trial. *University of Technology Sydney, Postgraduate research Conference, November 2004.*

**Conference presentations**

- Mehmet, J, Zaslawski, C, Leong, J. (2004) Does traditional Chinese medicine improve semen count, motility and morphology in sub fertile men? A pragmatic randomised clinical trial. *Presented at the 6th Annual University Graduate School, Student Services Postgraduate Research Students' Conference, Sydney.*
- Mehmet, J, Zaslawski, C, Ryan, D, Leong, J. (2004) Does traditional Chinese medicine improve semen count, motility and morphology in sub fertile men? A pragmatic randomised clinical trial. *Presented at the WAFAS 6th World Conference on Acupuncture, Gold Coast.*
- Mehmet, J, Zaslawski, C. (2004) Does traditional Chinese medicine improve semen count, motility and morphology in sub fertile men? A pragmatic randomised clinical trial. *Presented at the 11th Annual RNSH Scientific Research Meeting, Sydney.*
- Mehmet, J, Zaslawski, C. (2005) Does traditional Chinese medicine improve semen count, motility and morphology in sub fertile men? A pragmatic randomised clinical trial. *Presented at the University of Technology, Sydney Health Research Forum, Sydney.*

**Posters**

- Mehmet, J, Zaslawski, C. (2004) Does traditional Chinese medicine improve semen count, motility and morphology in sub fertile men? A pragmatic randomised clinical trial. *Sponsored by the 2nd Australian Health and Medical Research Council Conference, Sydney Convention Centre, Sydney.*

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# Abstract


## Background

The treatment of male infertility in Chinese medicine is discussed in several cohort studies and case histories recorded and published in Chinese medicine (CM) and biomedicine journals. These papers claim fair to excellent results in improving semen parameters and pregnancy rates. Three clinical trials conducted by Pei et al (2005), Siterman et al (2000) and Siterman et al (1997) also found evidence of a statistically significant increase in semen parameters within the treatment group after acupuncture.

### Objective

To compare the effectiveness of acupuncture and Chinese herbal medicine treatment on the semen parameters, count, motility and morphology to no treatment at all.

### Design

A pragmatic randomised controlled study.

### Setting

Participants received Chinese medicine treatment at a private clinic, the Rozelle Acupuncture and Chinese Medicine Centre, while semen samples were analysed in the laboratory of Sussex Fertility Services.

### Patients

Twenty-eight sub fertile men agreed to participate in the study. Of this cohort, 15 participants matched selection criteria and were randomised into the control and treatment groups.

In addition, 13 sub fertile men, who did not meet the selection criteria for the randomised clinical trial, completed a medical history questionnaire and were examined using Chinese medicine diagnosis. In total, 28 sub fertile men were examined and completed the medical history questionnaire.

**Measurement**

A semen analysis by 'Strict criteria' measured the sperm morphology, motility and count of the treatment and control groups before and after the eight week treatment or control period respectively. The scientist analysing the semen samples was blind to the subjects' status.

**Treatment**

The acupuncture treatment and Chinese herbal formulas selected were based on Chinese medicine pattern differentiation, individually diagnosed for each participant.

The treatment group (n=8) were provided eight weeks of acupuncture (one treatment per week) and Chinese herbal medicine, while the control group (n=7) received no treatment.

**Results**

Changes in semen parameters in the treatment and control groups before and after the treatment and control period were compared and analysed using Analysis of Variance (ANOVA), (SPSS).

Statistically significant increases were observed for morphology, $p<0.04$ and motility, $p<0.008$. No statistically significant increase was observed for sperm count $p<0.13$, though a clinically significant improvement in count was observed for the five participants in the treatment group who received Chinese medicine formulas designed to supplement count. The mean increase in count for this group was 220 million sperm (range 63.6 to 826 million).

Fifty-eight percent of participants referred during the study for an ultrasound of the testes were found to have a varicocele, a major factor for male sub fertility.

**Limitations**

The microscope used to analyse the semen samples was a standard laboratory microscope for this procedure, however it was not able to observe sperm cell nucleus and DNA.

**Conclusion**

Despite the study having a small number of participants, some significant and encouraging findings towards improvement in sub fertile parameters were observed in the moderately sub fertile participants.